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Two new species of *Myrothecium* from the Qinghai-Tibet Plateau Area, China

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Abstract — Two new species from the Qinghai-Tibet Plateau Area (China), *Myrothecium variabile* and *M. xigazense,* are described and illustrated. Specimens (dried cultures) and living cultures are deposited in the Herbarium of Shandong Agricultural University, Plant Pathology (HSAUP), and the Herbarium of Institute of Microbiology, Academia Sinica (HMAS).

Key words — *Ascomycota,* dematiaceous hyphomycetes, soil fungi, *Stachybotriaceae,* taxonomy

Introduction

During a survey of dematiaceous soil hyphomycetes in China, several unusual *Myrothecium* specimens were collected, of which two represent new species. They are described and illustrated from cultures grown on potato dextrose agar (PDA) (Domsch et al. 2007).

Myrothecium Tode [type species: *M. inundatum* Tode (Tode 1790)] is characterized by conspicuous sporodochia that are cupulate, pustulate or stalked, synnema-like, formed of densely compacted conidiophores arising from a developed stroma and bearing a mass of slimy, green to black conidia. Sporodochia are surrounded by differentiated, often curling, marginal hairs. Conidiophores are hyaline or slightly olivaceous, and branch repeatedly to the ultimate branches, the phialides. Phialides are compacted in a dense parallel layer, cylindrical with conically tapering tips and usually undifferentiated collarettes. Conidia are 1-celled, subhyaline to pale greenish brown but dark olivaceous in mass. Seifert et al. (2011) listed 30 taxa for the genus.

^Yue-Ming Wu and Yu-Lan Jiang contributed equally to this work.

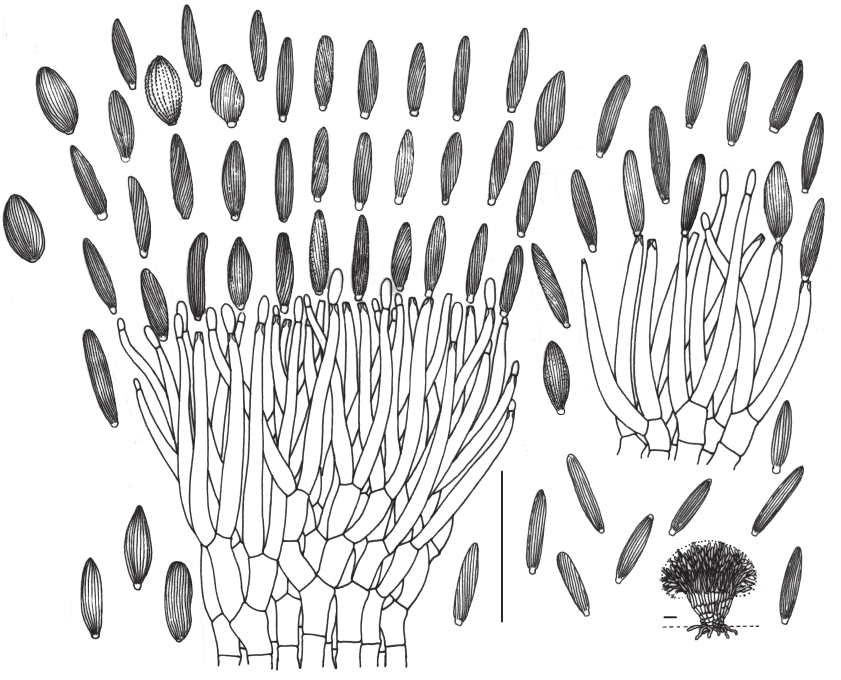

Fig. 1. *Myrothecium variabile* (ex holotype HSAUP II$_{07}$1083).
Conidia, conidiophores, and conidiogenous cells. Scale bars = 25 μm.

Myrothecium variabile Y.M. Wu & T.Y. Zhang, **sp. nov.** Fig. 1

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Differs from *Myrothecium cinctum* and *M. striatisporum* by its longer conidia.

Type: China, Tibet: Xigaze, altitude 3100 m, from a forest soil, 11 Sept. 2007, Y.M. Wu (**Holotype** HSAUP II$_{07}$1083; **isotype** HMAS 196284).

Etymology: The epithet refers to the variable shape of the conidia.

Colonies on PDA effuse, flocculent, pale yellow at initial stage, later green to black. Mycelium superficial or immersed, hyphae branched, septate, smooth, hyaline, 2–3 μm wide. Sporodochia usually not more than 1.0 mm diameter, often confluent, at first green, later black with a white margin, without setae. Conidiophores straight or flexuous, branched, smooth, with apical branches arranged penicillately. Conidiogenous cells phialides colourless, smooth, 10–25 × 2–2.5 μm. Conidia unicellular, cylindrical, clavate, fusiform to navicular (L/W=6–11.25), often slightly protuberant and truncate at the base, smooth, pale greenish brown, in mass greenish brown to black, with distinct longitudinal or oblique striations, 12.5–16.25 × 2.5–3.5 μm.

Comments: Morphologically, *Myrothecium variabile* resembles *M. cinctum* (Corda) Sacc. (Saccardo 1886) and *M. striatisporum* N.C. Preston (Preston 1948) its longitudinally or obliquely striate conidia. However, *M. cinctum* (6.5–14 × 2.5–4.5 μm) and *M. striatisporum* (7–12 × 2.5–3.5 μm) have smaller conidia and verrucose conidiophores.

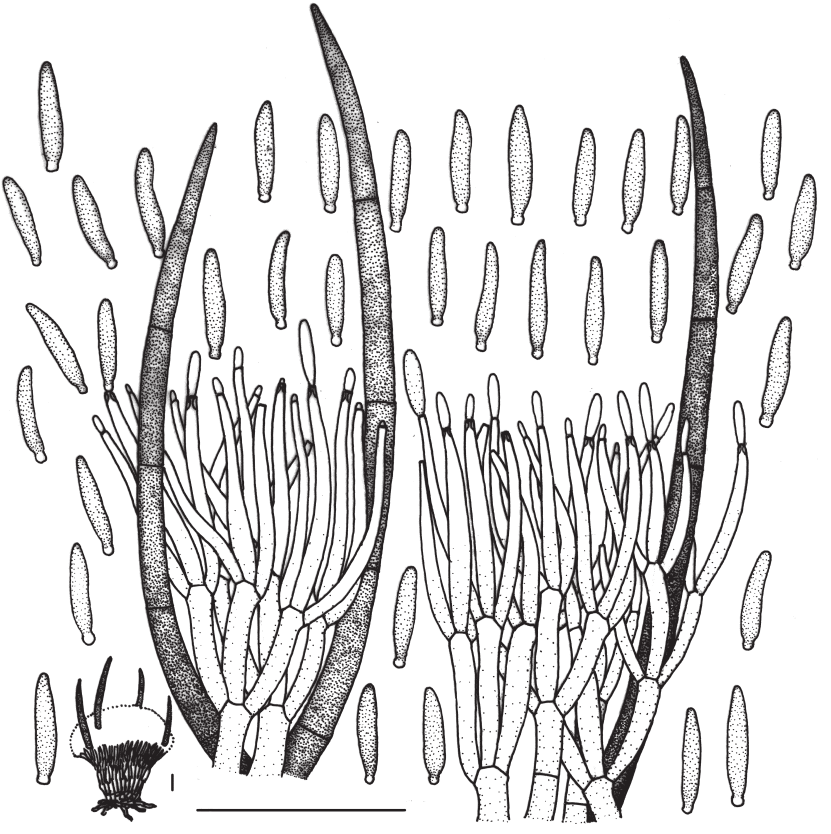

Fig. 2. *Myrothecium xigazense* (ex holotype HSAUP II$_{07}$0969).
Conidia, conidiophores, setae, and conidiogenous cells. Scale bars = 25 μm.

Myrothecium xigazense Y.M. Wu & T.Y. Zhang, **sp. nov.** Fig. 2

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Differs from *Myrothecium carmichaelii* and *M. jollymanii* by its longer conidia.

Type: China, Tibet: Xigaze, altitude 3900 m, from a grassland soil, 9 Sept. 2007, Y.M. Wu (**Holotype** HSAUP II$_{07}$0969; **isotype** HMAS 196285).

Etymology: in reference to the type locality.

Colonies on PDA effuse, flocculent, white at initial stage, later black, Mycelium mostly superficial, hyphae branched, septate, smooth, hyaline, 2–3 μm wide. Sporodochia usually not more than 1.2 mm diameter, often confluent, at first green, later black with a white margin. Setae pale brown, smooth, septate, 220–250 μm long, 4–6 μm thick. Conidiophores straight or flexuous, branched, with apical branches arranged penicillately. Conidiogenous cells phialides colourless, smooth, 8–15×2–2.5 μm. Conidia unicellular, cylindrical or clavate, often slightly protuberant and truncate at the base, smooth, pale greenish brown, dark greenish in mass, 12.5–15 × 2–3 μm.

Comments: Morphologically, *Myrothecium xigazense* resembles *M. carmichaelii* Grev. (Greville 1825) and *M. jollymanii* N.C. Preston (Preston 1948) in conidial colour and shape. However, both *M. carmichaelii* (10–11 × 1–1.3 μm) and *M. jollymanii* (10–12 × 2–2.5 μm) have shorter conidia. Additionally, *M. carmichaelii* lacks setae while the setae in *M. jollymanii* are hyaline, not pale brown as in *M. xigazense*.

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